

AMENDMENTS TO THE CLAIMS

1.(currently amended): A traffic control method of a frame relay network connected to in a network system comprising an ATM (Asynchronous Transfer Mode) network, plural frame relay networks respectively connected to the ATM network through channels and plural terminals respectively connected to the plural frame relay networks through channels, said traffic control method comprising steps of:

measuring a data quantity transmitted through each channel, wherein data transmitted from the frame relay network to the ATM network arrive at the ATM network after being converted into one or more cells;

operating a traffic restrictive level corresponding to the data quantity of each channel which is measured, per channel, wherein the traffic restrictive level is a level to prevent excess of contract cell rate of the ATM network and has a plurality of levels; and

performing a traffic restrictive process corresponding to a level of the traffic restrictive level which is operated about each channel, wherein the traffic restrictive process includes a process for reducing a quantity of cells arriving at the ATM network from the frame relay network.

2. (cancelled)

3.(currently amended): A traffic control method according to claim 1, further comprising steps of:

a step of detecting a traffic restrictive class set for each channel transmitting data from the frame relay network to the ATM network;

detecting a traffic restrictive process corresponding to the detected traffic

restrictive class and the operated level of the traffic restrictive level with respect to each channel;
and

a step of performing the detected traffic restrictive process with respect to each channel corresponding to the traffic restrictive class is detected.

4.(currently amended): A traffic control method according to claim 1, wherein said traffic restrictive process comprises a process for writing information indicating that a congestion ~~occurs~~ has occurred on the frame relay network to data transmitted through ~~each channel~~ one of the channels, wherein the written information is received by a terminal corresponding to a destination of the data.

5.(currently amended): A traffic control method according claim 1, wherein said traffic restrictive process comprises a process for discarding data transmitted through ~~each one of the channel~~ channels.

6.(currently presented): A traffic control method according claim 1, wherein said traffic restrictive process comprises a process for transmitting a message indicating that a congestion ~~has occurs occurred on the frame network~~ to a transmitting terminal of data transmitted through ~~each one of the channel~~ channels.

7.(previously presented): A traffic control method according to claim 1, wherein said traffic restrictive process is performed based on a maximum transmission rate set for each channel.

8.(cancelled)

9.(currently amended): A network system comprising:

an ATM (Asynchronous Transfer Mode) network; and

~~plural a frame relay network networks respectively connected to the ATM network through channels;~~

~~plural terminals respectively connected to the plural frame relay networks through channels;~~

wherein the frame relay network comprises:

a data quantity measurement portion measuring a data quantity transmitted through each channel, wherein data transmitted from the frame relay network to the ATM network arrive at the ATM network after being converted into one or more cells;

a restrictive level operation portion operating a traffic restrictive level corresponding to the data quantity of each channel measured by said data quantity measurement portion, per channel, wherein the traffic restrictive level is a level to prevent excess of contract cell rate of the ATM network and has a plurality of levels; and

a traffic control portion performing a traffic restrictive process corresponding to a level of the traffic restriction level operated about each channel by said restrictive level operation portion, wherein the traffic restrictive process includes a process for reducing a quantity of cells arriving at the ATM network from the frame relay network.

10.(currently amended): A network system comprising:

an ATM (Asynchronous Transfer Mode) network; and

~~plural a frame relay network networks respectively connected to the ATM network through channels;~~

~~plural terminals respectively connected to the plural frame relay networks through channels;~~

wherein the frame relay network comprises:

a data quantity measurement portion measuring a data quantity transmitted through each channel, wherein data transmitted from the frame relay network to the ATM network arrive at the ATM network after being converted into one or more cells;

a restrictive level operation portion operating a traffic restrictive level corresponding to the data quantity of each channel measured by said data quantity measurement portion, per channel, wherein the traffic restrictive level is a level to prevent excess of contract cell rate of the ATM network and has a plurality of levels;

a restrictive process storage portion storing information of a traffic restrictive process corresponding to a level of the traffic restrictive level operated by said restrictive level operation portion about each channel; and

a traffic control portion reading out the information of the traffic restrictive process corresponding to the traffic restrictive level operated by said restrictive level operation portion about each channel from said restrictive process storage portion and performing the traffic restrictive process corresponding to the information read out from said restrictive process storage portion to each channel, wherein the traffic restrictive process includes a process for reducing a quantity of cells arriving at the ATM network from the frame relay network.

11.(cancelled)

12.(currently amended): A frame relay switch in provided on a plural frame relay network networks in a network system comprising connected to an ATM (Asynchronous Transfer Mode) network, said plural frame relay networks respectively connected to the ATM network through channels and provided with plural frame relay switch, and plural terminals

respectively connected to the plural frame relay networks through channels, said frame relay switch comprising:

a data quantity measurement portion measuring a data quantity transmitted through each channel, wherein data transmitted from the frame relay network to the ATM network arrive at the ATM network after being converted into one or more cells;

a restrictive level operation portion operating a traffic restrictive level corresponding to the data quantity of each channel measured by said data quantity measurement portion, per channel, wherein the traffic restrictive level is a level to prevent excess of contract cell rate of the ATM network and has a plurality of levels;

a restrictive process storage portion storing information of a traffic restrictive process corresponding to a level of the traffic restrictive level operated by said restrictive level operation portion about each channel; and

a traffic control portion reading out the information of the traffic restrictive process corresponding to the traffic restrictive level operated by said restrictive level operation portion about each channel and performing the traffic restrictive processes corresponding to the information read out from said restrictive process storage portion to each channel, wherein the traffic restrictive process includes a process for reducing a quantity of cells arriving at the ATM network from the frame relay network.